Maryland Energy
ADMINISTRATION
Powering Maryland's Future

EmPOWERing Maryland
Clean Energy Programs
FY 2011

SEPTEMBER 2010

MEA EmPOWERing Maryland Clean Energy Programs FY11

EXECUTIVE SUMMARY

The Maryland Energy Administration (MEA) mission is to promote affordable, reliable and clean energy using monies from the federal American Recovery and Reinvestment Act (ARRA) and the state Strategic Energy Investment Fund (SEIF). As part of Governor's O'Malley "Smart, Green and Growing" initiative, these programs will help reduce household bills, create new green collar jobs, address global climate change, and promote energy independence.

In total, by leveraging federal, state, and private investments, the investments made by MEA and its partners this fiscal year will result in countless benefits for Marylanders, including:

Funds invested by MEA	$48 million
Energy Savings over life of investments	$127 million
Green collar jobs created/retained	620 jobs
CO2 emissions reduced	33,025 tons
Cars off the road (in CO2 equivalent)	6,300 cars
# of Maryland low-to-moderate income families benefitting from energy retrofits	1,300 families
Renewable energy systems installed on homes	2,700 systems
Annual MWh saved	73,245 MWh
Amount of conventional gasoline displaced	2.2 million gallons
Amount of renewable energy produced	19,000 MWh

Evaluation, measurement and verification are a part of all programs run through MEA. MEA also plans to launch or expand programs to lead Maryland by example by providing zero interest loans to state agencies for energy efficiency and renewable energy projects, encouraging the use of alternative transportation fuels, and promoting electric vehicle development.

FOOTNOTE

This program book highlights all MEA programs for the current year and does not highlight separate administrative, EM&V, regulatory strategies, or other functions performed by MEA.

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Goal 1 - Expand Energy Efficiency

A. Multi-Family Housing Retrofits for Low and Moderate Income Families

Budget: $ 1,658,243 (ARRA - Multifamily)
$ 2,183,034 (SEIF) (includes $350,000 Technical support)
$ 3,841,277 (Total)

A significant portion of low and moderate income families are renters, yet apartments and condominiums have not been included in the traditional weatherization programs. In coordination with the Department of Housing and Community Development (DHCD) and housing nonprofit organizations, MEA will provide energy efficiency retrofits in apartment units to reduce energy bills for low and moderate income families over the life of the program. Funding may be used for a limited number of renewable energy projects.

Beneficiaries

Residential customers in multi-family buildings who are responsible for their utility bill or properties that pay the utility bill for low and moderate income Maryland residents are beneficiaries.

The Way it Works

The program focuses primarily on apartment buildings undergoing significant rehabilitation efforts as well as properties needing energy efficiency upgrades. Some new construction projects may also be served. Recruitment of potential buildings is conducted through DHCD and other existing state and local affordable housing agencies, utilities, and building management associations. MEA leverages funds with DHCD to pay a portion of incremental cost for energy efficiency measures for new or rehabilitated multifamily buildings already undergoing DHCD rehabilitation. MEA pays up to $2,500 per unit, with a cap of $500,000 per project.

FY 10 Accomplishments

The first projects closed in November 2009. Twenty projects have been awarded funding to improve energy efficiency and 9 audits have been funded. Another twenty-one audits have been funded under the Green Grant program.

Return on Investment

The investment in this program will yield an estimated $607,200 in annual direct energy savings to consumers during FY 11 through the retrofit of an estimated 3,600 units. Energy savings from this project will typically range from 15 to 25 percent per housing unit or complex. In addition to reducing monthly energy bills

for thousands of families, this program would help create an estimated 57 energy rehabilitation jobs.

Program Goal	Projected Results
Annual reduction in energy consumption	4,048 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	231 homes
Annual savings Life Cycle savings	$ 607,200 per year $ 9 million over 15 years
Carbon Dioxide Emissions Avoided	2,305 tons
Equivalent to cars off the road	384 cars
Participants	3,600 units
Jobs Created/Retained	57

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B. Commercial and Industrial Programs

Budget: $ 348,836 (ARRA - Save Energy Now)

> [A portion of the $2.19 million budget for revolving Lawton loan appropriations is available for C&I. See Part D: EmPOWERing Clean Energy Communities in this Section of the document]

The industrial/commercial sector represents approximately 30% of electricity consumption in Maryland. MEA will reach out to this market sector by providing financial assistance to help Maryland businesses and institutions implement energy efficiency upgrades and/or energy assessments.

Beneficiaries

Commercial, industrial and institutional consumers that undertake upgrades to improve energy efficiency.

The Way It Works

Save Energy Now for Maryland Industry: To further support the industrial sector, the MEA has created a state Save Energy Now program funded by DOE to provide access to technologies and operational practices that can be used to improve the energy efficiency of industrial manufacturing facilities through waste heat recovery, combined heat and power, and other traditional energy efficiency improvements. The program leverages aspects of the federal Save Energy Now program along with expertise from the Maryland Technology Extension Service to provide Maryland industries access to informational resources, workshops, technical support, trainings, and energy assessment opportunities.

Energy Efficiency Loan Fund: Using the existing Jane E. Lawton Conservation Loan Program regulations and structure, MEA will offer a low interest rate revolving loan program to help finance the cost of energy efficiency projects in commercial and industrial facilities. By operating this program as a revolving loan fund, MEA will ensure that financial assistance is available for commercial and industrial energy efficiency projects in future years to come. Funds for these loans are listed in the Lawton Loans section of the Program Book.

Energy Assessments and Measures: To support the commercial sector, the MEA may offer grants to help pay down the cost of energy assessments and/or energy efficiency measures. MEA may provide energy assessments at a reduced cost and provide additional incentive money to qualified energy efficiency measures identified by utility energy efficiency programs.

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FY 10 Accomplishments

One Jane E. Lawton Conservation Loans for a business was established in FY 2010. MEA is actively evaluating 4 loan applications for funding that is available from the Lawton Program in FY 2011. MEA is partnering with the Department of Business and Economic Development (DBED) to assist MEA in the financial review of loan documents submitted by businesses.

During FY 2010, MEA in partnership with the University of Maryland Energy Technology Service completed 20 commercial and industrial assessments from around the state. The following table lists a portion of the assessments conducted during FY 2010.

ENERGY ASSESSMENT PROGRAM FY10	
COMPANY NAME	**CITY**
AAI Corporation	Hunt Valley
Collington Episcopal Life Care Community	Mitchellville
Seville Condominium Association	Chillum
St. Mary's Parish	Annapolis
The Forum Condominium	North Bethesda
Archdiocese of Washington	Hyattsville
ATK	Elkton
MedImmune	Gaithersburg
Lula G. Scott Community Center	Shady Side
Yeshivat Rambam	Baltimore

Return on Investment

MEA will utilize the authority in the Lawton Loan Program to offer commercial and industrial businesses loans for energy efficiency projects. The program will make energy efficiency projects economically attractive in comparison to other investments. Programs that incentivize the most cost effective energy efficiency measures for commercial and industrial customers will see significant energy savings and are expected create or retain about 3 jobs in the industry.

Program Goal	**Projected Results**
Annual reduction in energy consumption	10,533 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	849 homes
Annual savings Life Cycle savings	$1,263,960 per year $19.0 Million (15 years)
Carbon Dioxide Emissions Avoided	5,431 tons
Equivalent to cars off the road	1,046 cars

Participants	13 (3-loans/10 audits)
Jobs Created/Retained	2

C. State Agency Loan Program (SALP)

Budget: $ 6.9 million (ARRA)
$ 1.1 million (Revolving SALP loan Applications)
$ 8.0 million (Total)

SALP is a revolving loan program administered by MEA. To assist the state in leading by example, MEA plans to expand SALP, which provides zero interest loans (with a 1% administrative fee) to state agencies for energy efficiency improvements.

Beneficiaries

State agencies implementing projects to reduce energy consumption

The Way It Works

MEA will continue to administer the SALP program in partnership with the Department of General Services. The funding through ARRA will enable Maryland to initiate additional projects to further reduce state agency energy consumption through fiscal year 2011. State agencies pay zero percent interest on these loans with a one percent administration fee. The majority of the funds will be linked with Energy Performance Contracts (EPCs) developed by state agencies working with both the Department of General Services and MEA. Up to 20% of the funds will be available through a MEA solicitation process for smaller energy projects for which the EPC process is not appropriate.

FY 10/ FY 11 Accomplishments

MEA has worked with the Department of General Services to identify the five energy performance contracts (EPC) projects that will be receiving SALP loans. These contracts include the Maryland Stadium Authority, the University of Maryland Center for Environmental Science (UMCES), the Maryland State Police, and the State Highway Administration (SHA).

In addition, MEA has issued a solicitation for the 20% of the SALP loan fund reserved for smaller projects. MEA is currently moving forward with executing loan agreement documents for two loans for the UMCES-Horn Point and the Maryland Port Authority.

Return on Investment

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Funding in FY 2011 will create more than 89 jobs and save over 29,000 MMBTUs. The cumulative total over the lifetime of the installed energy measures from loans made in FY 2011 is projected to be over $19.7 million.

Program Goal	**Projected Results**
Annual reduction in energy consumption	10,968 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	885 homes
Annual savings Life Cycle saving	$1.32 million per year $19.7 million (15 years)
Carbon Dioxide Emissions Avoided	5,655 tons
Equivalent to cars off the road	1,090 cars
Participants	8 loans
Jobs Created/Retained	89

D. EmPOWERing Clean Energy Communities

Budget: $ 8.14 million (EECBG)
$ 2.20 million (SEIF funds for low-to-moderate income grants)
(includes $700,000 for FY 2010 grant payments)
$ 2.19 million (Revolving Lawton loan appropriations)
$ 12.53 million (Total)

The overall EmPOWERing Clean Energy Communities program consists of three smaller programs: the EmPOWER Energy Efficiency and Conservation Block Grant program (EmPOWER EECBG), EmPOWER Clean Energy Communities low-to-moderate income competitive grants and the Lawton Loan Program.

Beneficiaries

The EmPOWERing Clean Energy Communities program benefits Maryland local governments and non-profit organizations.

The Way it Works

EmPOWER EECBG

Under the EmPOWER EECBG program, DOE is providing $9.59 million to MEA over a three year period to provide sub-grants to municipalities in order to enable energy efficiency and/or renewable energy projects on local government faculties. The EmPOWER EECBG will go to the 133 municipalities that are not receiving direct funding through the U.S. DOE EECBG program, with funding levels being determined using a population based formula. MEA is using procure a contractor to provide assistance in delivering energy support services to the 132 recipient local governments.

EmPOWER Clean Energy Communities Low-to-Moderate Income Grants

In FY 2011, the EmPOWER Clean Energy Communities Low-to-Moderate Income Grant program anticipates having more than $3 million in grant funds available for energy efficiency projects that benefit low-to-moderate income Marylanders.

Jane E. Lawton Conservation Loan Program

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The Jane E. Lawton Conservation Loan Program anticipates having $2.19 million in loans available in FY 2011. JELLP loans allow non-profits and local governments and businesses to finance energy projects and make loan repayments using avoided energy costs.

FY 10 Accomplishments

MEA has completed the solicitation and evaluation for FY 2010 Low-to-Moderate Income Grant applications. During the initial round of grant applications, MEA was able to award 43 grants totaling over $2 million throughout Maryland.

As part of the EmPOWER EECBG program, MEA entered into grant agreements with over 130 local Maryland governments interested in benefitting from this program. MEA is providing energy audits to reach recipient local governments to help identify the best potential energy project(s) for their facility. EECBG grant funds are then being used to execute an energy efficiency and/or renewable energy project on buildings owned or operated by the local government.

Return on Investment

These funds will assist consumers in Maryland by providing grants and loans for various energy efficiency and renewable energy projects. MEA anticipates approximately 90 jobs being created or retained through the EmPOWERing Clean Energy Communities programs.

Program Goal	**Projected Results**
Annual reduction in energy consumption	21,900 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	990 homes
Annual savings Life Cycle savings	$1.80 million per year $26.9 million (15 years)
Carbon Dioxide Emissions Avoided	6.330 tons
Equivalent to cars off the road	1,220 cars
Number/Participants	160 grants/loans
Jobs Created/Retained	90

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E. Farm Energy Technical Assistance & Incentives

Budget: $ 100,000 (SEIF)

Maryland's 12,000 farms spent about $26 million on electricity in 2008. Maryland farms spend tens of millions on petroleum products, gasoline, diesel fuel, natural gas, LP gas, kerosene, fuel oil, and other fuels. This statewide project provides energy assessments to Maryland farms, and offers cash rebates for the installation of qualifying farm energy efficiency measures. The program is the extension of the successful Maryland Farm Energy Site Assessment Program, Phases I and II, which were funded in part by MEA.

Beneficiaries

Rural Marylanders and all Maryland farms

The Way it Works

This statewide program has a two-tiered approach to capture energy savings for Maryland agricultural producers. Tier 1 offers technical assistance and/or rebates on energy efficient equipment. Tier 2 offers farm energy assessments to qualifying producers who have substantial potential energy savings, and/or rebates on energy efficient equipment. Services offered include technical assistance, energy assessments, and rebates. All Maryland farms that use a minimum of 10,000 kWh per year are eligible to receive technical assistance; all Maryland farms are able to receive rebates provided their project meets a minimum energy savings threshold. Energy assessments are reserved for farms that have higher energy use and/or higher energy savings potential, and are committed to installing measures as a result of the assessment.

Program History

The 2006 Maryland Farm Energy Site Assessment Program, Phase I, provided 25 energy assessment reports to producers on the Eastern Shore. These 25 farms were primarily poultry operations, and the scope was limited to farmers who had requested energy assessments through the Federal Conservation Security Program (CSP). The Phase I program identified energy savings and production benefits of 471,700 kWh and 46,000 gallons of propane. Together, these savings represent $115,000 in annual energy cost savings and $319,800 in annual production benefits.

Phase II of the Program began in April 2007 with a goal of 50 assessments to be completed in Western Maryland. As much as $50,000 in incentive funds were available for Phase I and Phase II producers who implement measures as a result of the energy assessments. The program delivered all 50 assessments to producers. Phase II identified 1.5 million kWh and 17,000 gallons of propane

savings. These two programs developed a successful, partnership-based infrastructure to deliver energy efficiency to an often-overlooked sector of the economy. The statewide program will build upon the success of its predecessors to identify and deliver energy savings to Maryland agriculture.

Return on Investment

This program addresses energy efficiency in all fuels, meaning rural Marylanders will be able to reduce the energy uses that are most important to them. Energy assessments have been provided to over 100 Maryland farms. Together, Phases I and II identified nearly 2 million kWh savings, and over 63,000 gallons of propane savings. Thus far, the statewide program has saved 1.3 million kWh, 27,000 gallons of propane and nearly 530,000 therms of natural gas per year. This program will create or retain about 2 jobs.

Program Goal FY 2011	**Projected Results**
Annual reduction in energy consumption	396 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	32 homes
Annual savings Life Cycle savings	$ 49,042 per year $ 735,630 (15 years)
Carbon Dioxide Emissions Avoided	204 tons
Equivalent to cars off the road	40 cars
Participants	30
Jobs Created/Retained	2

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F. State Energy Efficient Appliance Rebate Program

Budget: $ 574,037 (ARRA)

MEA will continue working with Maryland's utilities to enhance their existing appliance rebate programs and put more rebates in the hands of Maryland consumers. This program provides additional rebates for super-efficient clothes washers and refrigerators, room air conditioners, freezers, central air conditioners, and air source heat pumps, adding onto the amount offered as part of the utility programs. It will also add a new product rebate for ENERGY STAR electric heat pump water heaters. Many utilities and retail appliance outlets will offer appliance recycling which will help in the reduction of greenhouse gases.

Beneficiaries

This program is available to all Maryland homeowners, including those serviced by small municipal and cooperative utilities. MEA will run a simplified appliance rebate program for these consumers, who currently have no such program available to them. Municipalities and co-ops will assist in marketing and outreach.

The Way it Works

This program provides incentives homeowners to purchase efficient appliances to replace their older models. Homeowners will also be able to take advantage of any applicable rebates from their utility providers and federal tax credits. The federal funding will offer a $50 rebate for super-efficient refrigerators, a $100 rebate for super-efficient clothes washers, a $300 rebate for ENERGY STAR electric heat pump water heaters, a $500 rebate for ENERGY STAR central air conditioners, a $500 rebate for air source heat pumps, a $100 rebate for ENERGY STAR freezers, and a $25 rebate for ENERGY STAR room air conditioners. The rebates for refrigerators and clothes washers are for models that are of a greater efficiency than ENERGY STAR; MEA and the utilities will work to market these products. The program will use the same mail-in rebate format as the utilities' rebate programs. MEA's Technical Services contractor will handle rebates for consumers who are not customers of the five major utilities.

FY 10 Accomplishments

The Maryland Energy Efficient Appliance Rebate program was approved by DOE in December 2009. MEA has been coordinating with the utilities and the Public Service Commission, and the program launched on April 22, 2010. Over 7,000 appliance rebates were provided to consumers through June 30, 2010. The second phase of the program launched July 30, 2010.

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Return on Investment

This program will save nearly 2,000 MWh throughout the State in FY 2011, saving consumers almost $298,000 this year. Upgrading to efficient appliances will reduce annual CO2 emissions by almost 1,024 tons. This program will create or retain approximately 20 jobs this year.

Program Goal	**Projected Results**
Annual reduction in energy consumption	1,986 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	160 homes
Annual savings Life Cycle savings	$298,000 per year $3.873 million(13 years)
Carbon Dioxide Emissions Avoided	1,024 tons
Equivalent to cars off the road	197 cars
Participants	6,100 appliances/HVAC
Jobs Created/Retained	20

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G. Clean Energy Workforce Training and Capacity Building

Budget: $ 741,660 (SEIF Low/Mod Income portion - $239,775)
$ 248,000 (ARRA - Energy Codes)
$ 989,660 (Total)

The ARRA funding provides states with building code technical assistance to assist jurisdictions in becoming 90 percent energy code compliant by 2017. In addition, job training dollars are provided for by ARRA. MEA will work with DHCD to develop programs to assist with code compliance at the local level and will partner with state agencies and academic institutions to provide code training. In addition, this funding provides training funding to support energy retrofit training for contractors through Maryland Community Colleges, energy management training for state agencies, installer training for energy efficiency projects and energy program development analysis.

Beneficiaries

All Maryland jurisdictions and many Maryland businesses.

The Way it Works

Energy Codes

To comply with the State Energy Program Grant requirements of ARRA, MEA and DHCD must develop a plan to ensure that at least 90% of new and renovated residential and commercial building space is compliant with the IECC 2009 and ASHRAE 90.1-2007 within the next eight years. MEA has hired a Technical Service Contractor to assist in the development of this plan. In addition, MEA is in the process of investigating strategies to assist local governments responsible for enforcing the building code. One strategy could be to provide circuit riders to local governments to provide: training for code officials; assistance to policymakers to explain the importance of adequate and effective building code enforcement; field demonstrations of effective building code enforcement procedures; and possible, limited quality assurance of current building practices.

Energy Capacity Training and Development

MEA has provided energy retrofit training to individuals and business over the last three years. Since 2009, MEA has funded Maryland Community Colleges to provide training to the workforce that is supporting the expansion of residential energy retrofits in Maryland. The residential energy workforce is needed to provide the infrastructure and capacity to support the EmPOWER Maryland energy efficiency programs managed by Maryland utilities. In addition, training contractors working for MEA will provide training to both contractors and state agencies engaged in energy efficiency efforts.

MEA EmPOWERing Maryland Clean Energy Programs FY11

FY 10 Accomplishments

The Technical Services Contractor started the development of a strategy for approaching the energy code compliance requirement. This strategy will be executed in FY11. MEA worked with Maryland Community Colleges to train over 200 new individuals and businesses in energy retrofits.

Return on Investment

Energy savings in the area of energy codes will be developed once specific program plans are developed. This program will create or retain approximately 17 jobs and will train over 300 code officials and individuals in the building trades.

H. Maryland Homestar

Budget: $ 2 Million (ARRA)

This ARRA funding will help to further incentivize consumers to perform diagnostic audits and whole-house energy improvements. This funding will be available on top of the current rebates offered by local utility companies. This program is modeled after the proposed federal Homestar program which is also referred to as the "Cash for Caulkers" program.

Beneficiaries

Maryland homeowners, Home Performance contractors

The Way it Works

Consumers will receive direct rebates for energy efficiency work done to their homes. These rebates will be in addition to rebates offered by Maryland utilities or tax credits from local or federal sources. Incentives will be significant enough to strongly move consumers to participate in the program. Consumers will work through their local utility to have a diagnostic energy audit performed on their home. Once the consumer goes through with a certain number of the energy improvements recommended in the audit, MEA will reimburse the consumer for a significant percentage of the cost of the audit and improvements. This rebate will be in addition to any rebates the customer is eligible for from their utility provider.

FY 10 Accomplishments

This is a new program for FY 2011

Return on Investment

This program will allow about 1,800 Marylanders to access significantly higher rebates when they upgrade the energy efficiency of their homes, leading to a 4,320 MWh reduction in annual energy usage. This program will create or retain about 36 jobs.

MEA EmPOWERing Maryland Clean Energy Programs FY11

Program Goal	**Projected Results**
Annual reduction in energy consumption	4,320 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	348 homes
Annual savings Life Cycle savings	$648,000 per year $8.424million (13 years)
Carbon Dioxide Emissions Avoided	2,227 tons
Equivalent to cars off the road	429 cars
Participants	1800 homes retrofitted
Jobs Created/Retained	36

MEA EmPOWERing Maryland Clean Energy Programs FY11

Goal 2 - Promote Renewables

A. Residential Renewable Energy Grants

Budget: $ 6.88 Million (ARRA)
$ 1.4 Million (ACP)
$ 0.88 Million (SEIF)
$ 9.1 Million (Total)

Marylanders have great understanding that residential solar, geothermal and wind can significantly reduce their energy bills and reduce the state's carbon footprint. There is every indication that the demand for this program will remain strong. Accordingly, based on demand by each technology sector with current grant rebate levels, MEA anticipates it will help nearly 2,700 households take control of their energy future by putting a renewable system on their home.

Beneficiaries

All Marylanders that can install a small renewable energy system on their home or small business

The Way It Works

MEA will use ARRA funds to supplement existing grant programs in order to serve applications as they come forward. However, this is the last year that ARRA funding will be available and it is at a lower level that FY 10. MEA has been working with the solar industry since the early part of FY 10 to help adjust as funding for grants declines.

FY 10 Accomplishments

MEA's residential renewable energy grants program has proved extremely popular in FY 10 with approximately 1,250 Marylanders anticipated to receive grants for installing a renewable energy system on their home or small businesses.

FY 11 Projections

MEA anticipates awarding another 2,700 grants enabling the installation of nearly 5 MW of clean renewable power within Maryland.

Return on Investment

This program will increase the supply of renewable energy products on Maryland homes. The grants will help to create as many as 100 new jobs.

MEA EmPOWERing Maryland Clean Energy Programs FY11

Program Goal	**Projected Results**
Annual reduction in energy consumption	12,540 MWh equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	1,010 Homes
Annual savings Life Cycle savings	$1.88 million per year $28.2 million (15 years)
Carbon Dioxide Emissions Avoided	6,466 tons
Equivalent to cars off the road	1,245 cars
Participants	2,700
Jobs Created/Retained	100

B. Project Sunburst and Mid-size Renewables on Commercial Buildings

Budget: $ 4.6 million (ARRA)
$ 0.378 million (SEIF)
$ 4.98 million (Total)

The grant program provides financial incentives for the installation of renewable energy systems in Maryland businesses and government buildings.

Beneficiaries

All Maryland businesses and government entities that have the ability to install renewable energy systems.

The Way It Works

MEA is providing grants up to $50,000 for midsize solar photovoltaic systems greater than 20kW and up to 200 kW and up to $25,000 for solar water heating systems with collector area greater than 100 square feet at commercial buildings.

MEA is also working with public entities to contract for electricity from solar photovoltaics through power purchase agreements. MEA is providing grants of $1,000 per kW to reduce the capital cost of the systems.

FY 10 Accomplishments

MEA launched the midsize grant program for commercial buildings in November, 2009. In FY10 it received 7 Solar PV applications for a total of approximately 200 kW and 3 solar water heating applications.

Project Sunburst was formally launched on February 16, 2010 and received applications for over 30 MW of projects. MEA announced 21 awards for projects totaling 10 MW on Earth Day, April 22, 2010. By the end of FY10 MEA had encumbered $4M in funds.

Return on Investment

These renewable energy systems reduce the need to get electricity from the grid. They provide price stability, alleviate congestion on the grid, and are a reliable source of pollution-free energy. MEA anticipates that once the program is fully implemented, 10 MW of solar PV will be added to government and commercial buildings, tripling the state's solar installed capacity. The program is estimated to create 60 jobs for FY 11.

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Program Goal	Projected Results
Annual reduction in energy consumption	6,554 MWh Equivalent
Savings equivalent to the energy consumption of X number of MD homes per year	528 Homes
Annual savings Life Cycle savings	$786,500 per year $11.8 million (15 years)
Carbon Dioxide Emissions Avoided	3,380 tons
Equivalent to cars off the road	650 cars
Participants	50
Jobs Created/Retained	63

C. Electric Vehicle Infrastructure Program

The transportation sector is responsible for 30% of Maryland's greenhouse gas emissions. Existing and new technologies will help us meet our transportation needs while also reducing these emissions. Alternative fuels for use in transportation continues to play a critical part in advancing Maryland's sustainability and energy independence goals. MEA plans to implement the Electric Vehicle Infrastructure Program (EVIP) and the Maryland Hybrid Truck Goods Movement Initiative (MHTGMI) throughout the year.

Beneficiaries

Local governments, state agencies, fuel providers, service station owners, project developers and other businesses.

The Way It Works

Following the successful passage of the Governor's Electric Vehicle Tax Credit Program, Maryland will provide up to $2,000 of the titling tax for an electric vehicle. In support of the credit program, MEA created the Electric Vehicle Infrastructure Program (EVIP) within the Transportation Petroleum Reduction Program to provide grants for electric re-charging stations and the installation of Truck Stop Electrification (TSE) units.

FY 10 Accomplishments

The consortium for the Maryland Hybrid Truck Goods Movement Initiative (MHTGMI) was awarded $5.9 million from the US Department of Energy for the purchase and deployment of 145 heavy duty hybrid vehicles.

Through the EVIP Program, grants were announced in June for 250 truck stop electrification (TSE) and over 60 electric vehicle (EV) recharging stations.

Return on Investment

The program will reduce greenhouse gas emissions and petroleum/fossil fuel consumption. It will also increase energy security and stimulate the economy.

Program Goal	Projected Results
Gallons of conventional gasoline saved	2,232,000 gallons/yr
Participants	455
Jobs Created/Retained	18

E. Off-Shore Wind

Budget: MEA does not have a line item for funding associated with this initiative.

Beneficiaries

All Marylanders will enjoy the environmental and public health benefits associated with large-scale renewable energy development. The State will be able to take advantage of the rate stability, domestic REC production and grid congestion relief. Also, the business community of Maryland would benefit from the potentially significant economic development benefits of offshore wind development.

The Way It Works

MEA expects to continue working with other state agencies (DNR, DBED and PSC) along with its mid-Atlantic regional partners Delaware and Virginia, plus the Department of Interior's Atlantic Wind Consortium, to shorten the permitting time and to reduce the barriers of deployment of offshore wind. Specific efforts for advancing Maryland will include:

1. Extending the out-reach program for citizen knowledge and acceptance
2. Working with military stakeholders
3. Finalizing an RFI with the U.S. Bureau of Ocean Energy Management (BOEM, formerly MMS)
4. Facilitating financially viable framework to attract and support offshore wind developers.

Return on Investment

Offshore wind has the potential to supply more renewable energy than any other resource in the region. The wind resource available in the Mid-Atlantic region surpasses that found in the areas of the Midwest that have seen rapid wind energy development. If Maryland is able to successfully harness these resources, the State will be able to satisfy its Renewable Portfolio Standard (RPS) requirements and benefit from the growing Renewable Energy Credit (REC) market.

FY 10 Accomplishments

On March 1, 2010, MEA received nine responses to its initial request for expression of interest in offshore wind, reflecting a strong developer interest in Maryland's coastal waters.

Maryland engaged BOEM on a formal basis and held the initial State/federal BOEM taskforce meeting in April, 2010. Subsequent task force meetings led to the development of a draft planning area recommendation which is pending approval by BOEM for issuance as an RFI in the Federal Register.

Under a three-State Memorandum of Understanding with Delaware and Virginia signed in November 2009, Maryland is working regionally to develop common transmission strategies and find ways to foster sustainable regional demand for offshore wind power.

In July 2010, Maryland and Delaware joined to sign a letter to President Obama, requesting a federal partnership that would result in the procurement of large amounts of offshore wind power. Additionally, a letter from the Governor to the Navy Secretary Ray Mabus proposed power purchase by regional Navy facilities. MEA staff has also worked to develop such partnerships with federal agencies, meeting with personnel at the Department of Defense.

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E. Clean Energy Economic Development Initiatives

Budget: $ 5.1 Million (ARRA)

As Maryland moves to quickly build a vibrant clean energy sector and strives to create 100,000 "green-collar" jobs by 2015, the Maryland Energy Administration's (MEA) Clean Energy Economic Development Initiative (CEEDI) continues to assist in the growth of a clean energy industry throughout the State. This program is designed to help attract emerging clean energy companies, and to expand existing Maryland clean energy companies including the generators, component producers such as thin film solar and wind turbine manufacturers, and the associated supply chain producers.

Beneficiaries

Maryland businesses looking to grow or expand their clean energy business

The Way It Works

To implement this program, MEA issued guidelines and application instructions in line with US Department of Energy parameters on its website. MEA received 25 applications for the first round of responses (Nov 17th 2009) and an additional 26 second round applications (April 30, 2010). After a thorough review process, awards are made to companies on a rolling basis.

FY 10 / FY11 Accomplishments

In fiscal year 2010 MEA awarded a total of $390,000 to four companies and agencies: Technology and Devices International (TDI), Maryland Environmental Services (MES), Competitive Power Ventures (CPV), and the University of Maryland (UMD).

In July, 2010 (FY11), three companies have been awarded an additional $2.8 million. These companies are Advanced Technology and Research (ATR), Chesapeake Renewable Energy (CRE), and Strategic Services International (SSI). MEA is reviewing additional applications and anticipates announcing more grants to help build Maryland's clean energy industry

Return on Investment

The program will significantly increase the number of clean energy businesses, particularly those that manufacture clean energy products, services and materials. Combined, these seven companies have projects that are projected to create over 60 permanent green jobs and 125 temporary construction jobs.

MEA EmPOWERing Maryland Clean Energy Programs FY11

Goal 3 – Financing Clean Energy Innovation

A. EmPOWERing Financing (EF) Initiative

The EmPOWERing Financing (EF) initiative seeks to leverage private capital with public funds to offer local governments an easy-to-adopt, voluntary clean energy loan program for their citizens.

Beneficiaries

Maryland families and small commercial businesses that invest in energy efficiency and renewable energy systems

The Way It Works

Based on the pioneering property-assessed clean energy (PACE) financing models under development in Montgomery County and Annapolis, the EmPOWER Financing Initiative will offer localities a program whereby interested Marylanders could voluntarily obtain a clean energy loan secured through the locality (e.g., collected on water bills, property taxes, etc). MEA is working in close partnership with the Maryland Clean Energy Center to create a "program in a box" that enables municipalities to offer energy efficiency and renewable energy financing quickly and effectively. This readily deployable "program in a box" will include: model local ordinances, standard contracts, development for software to assist with the application process, and marketing concepts.

FY 10 Accomplishments

Partnership with MCEC: In November 2009, MEA and MCEC entered into a formal grant agreement to develop the "program in a box" based on the implementation efforts underway in Montgomery County and Annapolis of similar programs in other states. MCEC contracted with a Maryland software development company to design a custom Web-based application for local jurisdictions to manage loan applications and portfolios. Other elements of the "program in a box" such as model ordinances, loan documents, and contracts are also assembled for use by jurisdictions.

Return on Investment

By helping to overcome the longstanding barrier imposed by the upfront costs associated with clean energy investments, the EmPOWER Financing Initiative will enable Maryland families and small commercial businesses to invest in energy efficiency and renewable energy system once the program elements are fully developed.

MEA EmPOWERing Maryland Clean Energy Programs FY11

Goal 4 - Provide Consumer Energy Information

A. Maryland's Energy Information System

Budget: $ 50,000 (SEIF)

Providing a Maryland Energy Information System where energy consumers can find important information specific to Maryland's circumstances is a critical element in helping all energy consumers save money and use energy efficiently. Knowledge of Maryland's energy systems, where the energy comes from and how it's used, provides opportunities for all citizens to join efforts to save energy and achieve related goals. A one-stop shop for validated energy information can provide all public and private sectors with a consistent and well understood energy picture.

Beneficiaries

All Marylanders that need unbiased and validated energy information about their state's energy sources and uses

The Way It Works

MEA has used SEIF Administrative funds to develop an energy information database. The plan is to establish website access and provide more sophisticated analytical capability during FY11. MEA anticipates using MES to provide technical resources to create the in-house information data base and MEA resources to maintain and expand information. The site will track on-going energy efforts and act as a portal for a broad array of state specific energy information.

FY 10 Accomplishments

In FY10 MEA developed multiple energy website pages, the base website energy information database and the tools to manage and update the system. Toward the end of FY10, MEA anticipates writing task orders to transfer web pages and database systems to in-house servers and working on database information updates.

Return on Investment

This effort will provide consistent, validated energy information that can serve as a foundation for energy discussions and actions on the part of energy consumers, state agencies, utilities and other interested parties. Rather than constantly researching and pulling different data variables from various sources, the database will provide a single point of validated energy information for all users.

B. Consumer Awareness - Educational Outreach Programs

Budget: $ 500,000 (SEIF)

The Maryland Energy Administration (MEA) oversees the State's educational outreach efforts related to energy efficiency and clean energy, as well as the marketing of all related programs available through the MEA. This year's focus is on promoting general energy awareness, in connection with practical, low and no-cost energy saving tips for consumers, while tying all messaging back to our State goal of EmPOWER Maryland: 15% energy reduction by 2015. The MEA strives to create relevant and impactful campaigns and community partnerships which will reinforce the resources available through the MEA and EmPOWER this demographic to make smart energy decisions.

Beneficiaries

All Maryland consumers, with an immediate focus on low to moderate income residents.

The Way It Works

Large-Scale Traditional Media Campaigns: Traditional media outlets are utilized through a mix of transit, outdoor, print, and web advertisements, as well as, local public/commercial radio messaging, informational posters and brochures. Targeted demographic sectors throughout the State will be reached in several stages and with multiple flights in conjunction with major seasonal shifts in temperatures and peak energy consumption. All messaging centers around building the *EmPOWER Maryland* brand awareness, in association with the MEA, and increasing the understanding of simple no and low-cost energy changes each consumer can make today for a more "Smart, Green and Growing" Maryland in the future.

Grass-Roots/Earned Media and Community Involvement: The MEA is currently working in partnership with students at the Center for Design Practice at the Maryland Institute College of Art (MICA). Immediate benefits of partnering with this local institution are found in lower development and production costs of educational outreach materials while delivering cutting edge design and powerful messaging for our targeted audiences. Earned media will stem from routine press releases, newsletters and community educational events, such as MEA speaker participation at community and group events, as well as presence at local fairs and festivals.

FY10 Accomplishments

MEA launched its first major educational awareness campaign which spanned from FY 09 to FY10 with transit, outdoor, print, radio, and internet ads on the

theme of “EmPOWER Maryland.” The budget total budget was $1.2 million. MEA’s goal was to reach Marylanders with simple low and no cost tips for increasing energy efficiency throughout our State. All media design and placement was chosen to support Governor O’Malley’s EmPOWER Maryland legislation, with messaging and graphics designed to primarily target low to moderate residents. In addition to media buys, monthly newsletters were sent to over 3,600 opt-in subscribers (up from 2,300 subscribers in FY09). Each newsletter was designed to highlight recent news, events and citizen-focused information on MEA’s available programs, grants and resources. Press releases and Opinion/Editorial articles were written in house and submitted for distribution through the Governor’s communications office, as well as MEA’s media contact list and directly through local papers.

Return on Investment

Traffic to the MEA website is up by 34% from this time last year. Several of our programs which historically were slow to exhaust resources now have waitlists of upwards of over hundreds of individuals, and with our large-scale outreach efforts just beginning, we anticipate increases in program participation. Performance metrics for our outreach efforts were benchmarked last fall through State-wide surveys. Post campaign state wide surveys will be conducted later this spring for measuring the efficacy of the program. This increased awareness of consumers’ energy savings options significantly increases the energy efficiency goals of the O’Malley/Brown administration.

MEA EmPOWERing Maryland Clean Energy Programs FY11

APPENDIX: How Projected Results Were Calculated

[1] Annual reduction in energy consumption:

MWh equivalents were calculated using program specific DOE and EPA calculators and past program experience.

[2] Savings equivalent to energy consumption of X number of MD homes per year:

Residential average use in Maryland per household is 12.4 MWh/ year. Source: http://tonto.eia.doe.gov/ask/electricity_faqs.asp#home_consumption

[3] Annual savings:

Residential average per MWh in Maryland is $150. Commercial average cost per MWh in Maryland is $120. Source: http://www.eia.doe.gov/

[4] Carbon dioxide emissions avoided:

The annual carbon dioxide emissions rate in Maryland is 0.5156 metric tons per MWh. Source:
The Maryland Department of Environment, using PJM data.

[5] Equivalent to cars of the road:

The average car emits 5.19 metric tons of CO2 per year. Source: http://www.epa.gov/oms/consumer/f00013.htm